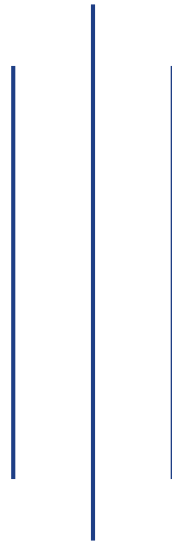


# **Syllabus for Licensing Examination of MD. Clinical Yoga/Yoga and Rehabilitation 2021**



**Nepal Health Professional Council**  
Bansbari, Kathmandu

## Table of Content

S.N.	Topic	Marks
1.	Patanjali Yoga Sutras	20%
2.	Hatha Yoga Pradeepika	10%
3.	Vedas, Upanishads and Darsanas	5%
4.	Srimad Bhagavad Gita	10%
5.	Research methodology	30%
6.	Rehabilitation medicine	5%
7.	Nutrition and Dietetics	10%
8.	Diagnosis Using Conventional Medicine & Yogic Treatment For The Disorders	10%
	Total	100%

# 1) Patanjali Yoga Sutras

## Unit -1: Samadhi Pada

- i. What is Yoga?
- ii. Culmination of Yoga - Vritti and its classifications
- iii. Necessity of Abhyasa&vairagya
- iv. Foundation of Abhyasa
- v. Lower & higher form of Vairagya
- vi. Definition of Samprajna&Asamprajna Samadhi
- vii. Definition & attribute of Ishwara
- viii. Pranava&Sadhana for Ishwara
- ix. Result of Sadhana - Obstacles in the path of Yoga

## Unit -2: Sadhana Pada

- i. Discipline for Sadhana
- ii. Kleshas – Avidya, Asmita, Raga, Dvesha&Abhinivesha
- iii. Modification of the Kleshas – meditation
- iv. Karmashaya& its fruits
- v. Pleasure and Pains are both painful
- vi. Four stages of Gunas
- vii. Purusha&Prakriti
- viii. Definition of Hana
- ix. Stages of enlightenment
- x. Necessity of Yoga Practice
- xi. Bahiranga Yoga

## Unit -3: Vibhuti & Kaivalya Pada

- i. Antaranga Yoga
- ii. Samyama& its results, applications
- iii. Parinama - Siddhis
- iv. Attainment of Kaivalya
- v. Sources of Siddhis
- vi. Influence of Karma
- vii. Manifestation & Source of Vasanas, Disappearance of Vasanas
- viii. Theory of perception
- ix. Mind and its manifestation
- x. Heading to Kaivalya

## 2) Hatha Yoga Pradeepika

### Unit-1: Hatha Yoga, its philosophy and practices

- i. Hatha Yoga, its meaning, aims and objectives, misconceptions, obstacles
- ii. The origin of Hatha yoga, hatha yogic literature, Hatha yogic practices as explained in Hatha Yoga pradipika
- iii. Concept of Matha, rules and regulations to be followed by the Hatha Yoga practitioner, Concept of Mitahara, Pathya and apathy
- iv. Hatha yogic parampara. Brief introduction to great Hatha yogis of Nath cult. And their contributions to Yoga. Relationship between Hatha yoga and Raja yoga

### Unit-2: Hatha yoga texts (Hatha yoga pradipika and Gherandasamhita)

- i. Preparation for Hatha yoga practice
- ii. First advise: About Yoga siddhis, aharavihara, methods to be adopted to overcome the probable obstacles
- iii. Second advise: About Yogasanas and Satkriyas
- iv. Practices of Astakumbhaka

### Unit-3: ShodhanaKriyas and Asanas

- i. Shodhanakriyas in Hatha yoga pradipika and GheranadSamhita, their benefits and precautions
- ii. Role of Shodhana-kriyas in Yoga sadhana and their importance
- iii. Yogasana, its definition, salient features and in importance in hatha Yoga sadhana
- iv. Asanas in Hatha Yoga pradipika and Gherandasamhita, their techniques, benefits, precautions and importance

### Unit-4: Pranayama, Bandhas and Mudras

- i. Concept of Puraka, Kumbhaka and Rechaka
- ii. Pranayama and its importance in Hatha Yoga sadhana
- iii. Astakubhakas, their benefits and Precautions
- iv. Pranayama practices in Hatha Yoga and Gherandasamhita
- v. Bandhas and role of Bandhatrayas in Yoga sadhana
- vi. Fundamental mudras in Hatha Yoga and Gherandasamhita, benefits and precautions

### Unit-5: Pratyahara, Nadanusandhana and Samadhi in Hatha Yoga and GherandaSamhita

- i. Concept of Pratyahara, Dharana and Dhyana in Gherandasamhita, their techniques and benefits
- ii. Concept of Samadhi in Hatha Yoga pradipika, Samadhi lakshanam and Hatha yoga siddhi lakshanam
- iii. The concept of Nada, four avasthas (stages) of Nadanusandhana and its Siddhis
- iv. Concept of Bindu, its evolution and techniques to preserve it

## **Unit-6: Concept of Ghata, Dhyana, Samadhi and Svava Yoga in the context of Gherandasamhita and Shiva svarodaya**

- i. Concept of Ghata and its correlation with body and importance of a Ghata Yoga
- ii. Concept of Dhyana and its types (Sthula, Jyoti and Sukshma)
- iii. Concept of Samadhi and its types (Dhyana yoga, Nada yoga, Rasananda yoga, Laya siddhi yoga, Bhakti yoga and Raja yoga)
- iv. Concept of Svava, its significance with reference to Shiva svarodaya

## **3) Vedas, Upanishads and Darshanas**

### **Unit-1: Vedas and Upanishads**

- i. The four main Vedas
- ii. Science and technology of Vedas
- iii. Why Vedas?
- iv. Essence of Vedas and Upanishads
- v. The concept of Dharma and higher dimensions of Dharma

### **Unit-2: Sankhya and Yoga**

- i. Introduction
- ii. Three fold afflictions
- iii. Means to overcome the afflictions
- iv. Twenty five entities according to Sankhya and the means of knowledge
- v. Sankhyaveda
- vi. Similarities and dissimilarities between Vyakta and Avyakta
- vii. Triguna
- viii. Existence of Purusa, Plurality of purusa, Proximity of Purusa and Prakriti

### **Unit-3: Nyaya and Vaisheshika**

- i. Concept of Nyaya philosophy
- ii. Means of salvation according to Nyaya and Vaisheshika
- iii. The sixteen Padarthas according to Nyaya
- iv. Means and object of knowledge according to nyaya and Vaisheshika
- v. The relationship between Nyaya and Vaisheshikaphilosophy
- vi. Perception, inference, comparison according to Nyaya and Vaisheshika

### **Unit-4: Mimamsa**

- i. Uttar Mimamsa-
  - Concept of Badarayana in UttaraMimamsa,
  - Pramana, Pratyaksa, Anumana,
  - Sabda according to UttaraMimamsa,
  - Difference between Vidya and Avidya

- Subject and object
- Creation and causation
- Cause and effect
- ii. PurvaMimamsa
  - PurvaMimsa in Sat darsanas
  - Pramanas of Jaimini
  - Atheism in PurvaMimamsa\

## 4) **Srimad Bhagavad Gita**

### **Unit-1: General Introduction**

- i. General introduction to Bhagavad Gita
- ii. Definition of Yoga in Bhagavad Gita
- iii. Its relevance and scope

### **Unit-2: Essentials of Bhagavad Gita-I**

- i. Essentials of Bhagavad Gita from Ch-2, 3, 4, 5, 6, 12, 17
- ii. The meaning of the term AtmaVirupa, Sthitaprajna, Sankhya, Karma Yoga, Sannyasa Yoga, Karma Yoga

### **Unit-3:Essentials of Bhagavad Gita-II**

- i. Essentials of Bhagavad Gita
  - Sannyasa
  - Dhyana
  - Nature of Dhyana
  - Preparation of Dhyana and Dhyana Yoga

### **Unit-4: Essentials of Bhagavad Gita-III**

- i. Essentials of Bhagavad Gita
  - Bhakti
  - Nature of Bhakti
  - Means and goals of Bhakti yoga

### **Unit-5: Essentials of Bhagavad Gita-IV**

- i. Essentials of Bhagavad Gita
  - Trigunas and the mode of Prakriti
  - Three kind of faith
  - Food for Yoga Sadhaka
  - Classification of food
  - The glory of Bhagavad Gita

## 5) **Research methodology**

### **Unit-1: Research Methodology Concepts -I**

- i. Introduction to research methodology – definition of research, types of research, need for Yoga research
- ii. The research process
- iii. Literature review – Purpose, Process, digital source: PubMed, etc., presentation of literature review
- iv. Ethics of research – Laboratory ethics, Publication ethics, Ethical bodies – IEC & IRB, Guidelines for good clinical practice
- v. Scales of measurement – nominal, ordinal, interval, ratio
- vi. Data collection methods: Observation, Interview, psychological tests, questionnaire, physiological tests, and archive

### **Unit-2: Research Methodology Concepts –II**

- i. Sampling methods - Population and Sample; Simple Random Sampling, Systematic Sampling, Stratified Sampling, Cluster Sampling
- ii. Methods of controlling biases - Randomization
- iii. Types of variables – Independent , dependent, confounding variable
- iv. Types of research design – Experimental designs, cross sectional design, Case study, Survey
- v. Reliability: Test-Retest Reliability, Internal Consistency, Inter rater Reliability
- vi. Validity: Construct Validity, Face Validity, Content Validity, Criterion Validity, Convergent and Discriminant Validity
- vii. Issues of bias and confounding
  - Selection bias, Recall bias, Observer or measurement bias, Publication bias
  - Randomization, Matching, Crossover design, Restriction (or blocking), Stratification

### **Unit-3: Statistical Concepts - I**

- i. Descriptive statistics
- ii. Inferential statistics
- iii. Hypothesis, null hypothesis
- iv. Statistics and Parameters
- v. Sample and Population
- vi. Generalization
- vii. One tailed, two tailed hypothesis
- viii. Types of Errors and its control
- ix. Central Limit Theorem

### **Unit-4: Statistical Concepts - II**

- i. Point estimate and interval estimate

- ii. Power analysis: Effect size, sample size
- iii. p-value
- iv. Confidence interval
- v. Statistical tests and design
- vi. Assumptions of tests
- vii. Statistical tests for various designs: Correlation, proportions, paired-sample and independent sample t-tests, Chi-Square tests, ANOVA, Repeated Measures ANOVA, parametric and non-parametric tests

## **Unit- 5: Physiological Basis & Clinical Relevance Of :**

Physiological effects of therapies used in naturopathy and yoga viz.

- i. Fasting, nutrition and dietetics
- ii. Hydrotherapy & Clay therapy
- iii. Manipulative therapies [massage therapy; Chiropractic; Osteopathy & physical therapy]
- iv. Acupuncture and Acupressure
- v. Color therapy & magnet therapy
- vi. Energy medicine and
- vii. Health/Clinical psychology and Counseling

## **6) Rehabilitation medicine**

### **Unit-1: History, scope and application**

- i. History and scope of the physical medicine
- ii. Definitions and terminology
- iii. Principles of rehabilitation

### **Unit-2: Treatment modalities used in physical medicine**

- i. General properties and detailed clinical use of
  - Heat- General physiological properties and mode of action, superficial and deep heating including Infrared, Hydro collator, Paraffin Wax bath, Conventional heating devices, Shortwave diathermy, Microwave diathermy and Ultrasonic therapy
  - Cold therapy
  - Low voltage currents, Low and high frequency currents

### **Unit -3: Exercise therapy**

- i. Exercise therapies, their principle.
- ii. Massage, manipulation, stretching and traction

### **Unit-4: Assessments and Diagnosis**

- i. Analysis of GAIT- Kinetics and kinematics, normal and pathological gaits, gait analysis
- ii. Electro-diagnosis-Electromyography (EMG) and its application, electrophysiological



testing of muscles and nerves

- iii. Outcome assessment tools, use of questionnaires, evaluation of disability

## **Unit-5: Rehabilitation aids and tools**

- i. Walking aids and their principles
- ii. Wheelchairs & crutches and their principles
- iii. Electrical and modified vehicles and their principles

# **7) Nutrition and Dietetics**

## **Unit-1: An introduction to Biomolecules and their metabolism**

- i. Carbohydrates- Composition, classifications, reactions, digestions and absorptions, Metabolism- Glycolysis, TCA, Glycogenesis, Glycogenolysis and Gluconeogenesis
- ii. Proteins-Composition, classification, reactions, digestion and absorption, Metabolism- Deamination, Transamination, Decarboxylation, Urea cycle
- iii. Lipids-Composition, classifications, reactions, fat constants, digestion and absorption, Metabolism- $\beta$ -oxidation, ketone bodies formation
- iv. Vitamins-Classification and functions
- v. Minerals-Functions in the body (Calcium, Sodium, Phosphorus, Chloride, Iron, Copper, Zinc, Iodine, Fluoride)
- vi. Water-Role of water in the body, water balance
- vii. Acid base balance
- viii. Enzymes-Definition, classification and factors influencing enzyme activity

## **Unit-2: Introduction to nutrition-Facts and Principles**

- i. Classification of food stuff- Nutritive value and food groups
- ii. Cooking methods- Reasons for cooking, various cooking techniques, physical and chemical changes during cooking
- iii. Milk and milk products-composition and nutritive value, processing of milk (pasteurization, homogenization), Milk products-a dried milk, concentrated milk , filled and imitation milk, butter, ghee and cream
- iv. Vegetables- Classification-green leafy vegetables, succulent and root and fruit vegetables, composition & nutritive value, selection & storage, Digestibility
- v. Fruits- Classification, Composition and nutritive value, Changes during ripening, Storage and selection of some common fruits and Digestibility
- vi. Cereals- Importance, structure, composition and nutritive value, Common cereal grains and their products, Rice – parboiling of rice, Wheat – milling of wheat, types of wheat flours, Maize, Millets

## **Unit-3: Preparation of therapeutic diets**

- i. Endocrine and metabolic disorders: Obesity and underweight, Diabetes Mellitus
- ii. Disease of the gastrointestinal tract: Diarrhoea, Constipation, Lactose intolerance, Gluten enteropathy, Peptic ulcers, Liver disease, Hepatitis, Cirrhosis, Protein energy

- malnutrition and fevers
- iii. Cardiovascular diseases: Myocardial infarction, Hypertension, Dyslipidemia, peripheral arterial disease, arteriosclerosis
- iv. Excretory system: Glomerulonephritis, Nephrotic syndrome, Acute renal failure, Chronic renal failure, urinary tract infection,
- v. Special diets: Hepatic coma, dietary advice for bed ridden patients, parenteral feed

#### Unit 4: Concept of food in Yoga

- i. Concept of food in different yogic texts with special reference to Hatha yoga pradiipika
- ii. Classification of food according to Bhagvadgita
- iii. Concept of yogic diet and its importance in Sadhana

## 8) Diagnosis Using Conventional Medicine & Yogic Treatment For The Disorders

### Respiratory System

- i. Upper respiratory tract –
  - Nose, Pharynx, Larynx
  - Trachea & Bronchial tree
  - Lungs
  - Pleura
  - Mediastinum
- ii. Physiology
  - a. Introduction, internal and external respiration, physiological anatomy of respiratory system
  - b. Mechanics of Respiration
    - i. Inspiration and expiration
    - ii. Role of respiratory muscles and thoracic cage
    - iii. Pressure and volume changes during respiration
    - iv. Work of breathing, lung compliance and its significance in health and disease
    - v. Lung volumes and capacities
      - i. Lung volumes and capacities and their measurements
      - ii. Respiratory minute volume and maximum voluntary ventilation
  - c. Alveolar Ventilation
  - d. Composition of atmospheric, inspired, alveolar and expired air
  - e. Pulmonary circulation
    - i. Pulmonary circulation, ventilation – perfusion relationship
    - ii. Diffusion of gases across pulmonary membrane
    - iii. Oxygen uptake, transport and delivery
    - iv. Carbon dioxide uptake, transport and delivery
  - f. Organization of the respiratory centers

- i. Nervous and chemical regulation of respiration
- ii. Classification and characteristics of hypoxia, cyanosis, asphyxia, hyperapnoea, dysnoea, apnoea and orthopnea and periodic breathing
- iii. Respiratory aspects of high altitude
- iv. Physiology of acclimatization and hyperbarrism
- v. Respiratory / pulmonary function tests
- vi. Non-respiratory functions of lungs
- vii. Artificial respiration
- viii. Importance of therapeutic administration of oxygen and carbon dioxide

## Diseases and management of Respiratory system

- i. Diseases of Respiratory system
  - a. Lobar pneumonia, bronchopneumonia, pulmonary tuberculosis
  - b. Atelectasis, bronchiectasis and pneumoconiosis
  - c. Chronic Obstructive Pulmonary Diseases (COPD)
  - d. Bronchial asthma, chronic bronchitis
  - e. Acute respiratory distress syndrome (ARDS)
- ii. Pharmacological management
  - a. Drugs used in Respiratory Disorders
    - i. Expectorants, Central cough suppressants, antitussives, mucolytic agents
    - ii. Pharmacotherapy of bronchial asthma and rhinitis
      - a) Drug therapy during an acute attack
      - b) Prevention of acute attacks
      - c) Treatment of status asthmaticus
      - d) Treatment of acute respiratory failure
      - e) Treatment of chronic persistent asthma
  - b. Drug therapy of rhinitis
- iii. Yogic management
  - a. Role of special techniques viz., Chair breathing
  - b. Role of desensitization techniques like Kriya
  - c. Mechanism of action

## Anatomy and physiology of Cardiovascular system

- i. Cardiovascular System
  - a. Heart – Position, Surface anatomy and its description
  - b. Great vessels – Aorta, Pulmonary trunk, superior vena cava, inferior vena cava and their branches
  - c. Arteries and Veins – Structure of arteries and veins, important arteries and veins of the body
- ii. Cardiovascular physiology
- iii. Historical perspective, organization of cardiovascular system
  - d. Heart
    - i. Structure and properties of cardiac muscle
    - ii. Cardio metabolism
    - iii. Innervations of heart, junctional tissue of heart

- iv. Regeneration and spread of cardiac impulse
- e. Electrocardiography
  - i. Enthovan's Law
  - ii. Procedure of various ECG leads, normal ECG and its interpretation
- f. Cardiac cycle
  - i. Pressure and volume changes (mechanical events)
  - ii. Heart sounds and stethoscope
  - iii. Principles of echo-cardiograph
  - iv. Measurement and regulation of cardiac output
- g. Heart sounds
  - i. Description, Causation and relation to other events in cardiac cycle
  - ii. Clinical significance of heart sounds
- h. Blood pressure
  - i. Definition, regulation and factors influencing BP
  - ii. Measurement of blood pressure
  - iii. Physiology of hemorrhage and shock
- i. Circulation
  - i. Blood vessels
  - ii. Physical principles of blood flow, regulation of blood flow.
  - iii. Jugular venous pulse tracing, radial pulse tracking
  - iv. Coronary, cerebral, renal and pulmonary circulation
  - v. Splanchnic, cutaneous and capillary circulation
  - vi. Cardiovascular changes in altitude and exercise

## Diseases and management of Cardiovascular system

- i. Diseases of cardiovascular system
  - a. Arteriosclerosis and atherosclerosis
  - b. Aneurysm
  - c. Vasculitis and thromboangitisobliterans
  - d. Rheumatic heart disease, endocarditis, myocardial infarction
  - e. Congenital heart diseases, pericarditis
  - f. Congestive cardiac failure
  - g. Tumors of lung and pleura
- ii. Cardiovascular drugs
  - a. Digitalis
  - b. Pharmacotherapy of cardiac arrhythmias – Sodium channel blockers, beta blockers, potassium channel blockers, calcium channel blockers
  - c. Pharmacotherapy of Hypertension – Clonidine, alpha methyl dopa, Guanethidine, Reserpine, Phentolamine etc.
- iii. Modern diagnosis
  - a. Systemic examination of the patient
  - b. Cardiovascular system
  - c. Respiratory system
  - d. Electrocardiography

- e. Echo-cardiograph
- f. Coronary angiography
- iv. Yogic management
  - a. Ancient concept about the disorders
  - b. Principles of Yogic management
  - c. Role of specific practices viz., drill walking and Shakti vikashaka
  - d. Mechanism of action

## Anatomy & physiology of Nervous system

- i. **Anatomy**
  - a. Division of nervous system, central nervous system peripheral nervous system,
  - b. Cerebral hemispheres, midbrain, pons, medulla oblongata, cerebellum, Spinal Cord, Autonomic nervous system
  - c. Meninges: Dura mater and arachnoid mater
  - d. CSF
  - e. Ventricular system
  - f. Cranial nerves
  - g. Spinal nerves
  - h. Important plexuses: Cervical, Brachial, Lumbar, Sacral and their nerve descriptions.
- ii. **Physiology Of Nervous System**
  - a. Neuron
    - Morphology and measure of excitability
    - Classification and properties of nerve fibers
  - b. Muscle
    - Types of muscle and their properties and morphology
    - Neuromuscular junction, excitation-contraction coupling
    - Clinical study of their hypo- and hyper function
    - Myasthenia gravis
    - Starling's law its applications
  - c. Central Nervous System
    - Structural and functional organization of central nervous system
    - Neuron – neuroglia, functional types of neurons
    - Cerebro-spinal fluids
      - a) Formation, circulation, functions of CSF
      - b) Methods of collection of clinical significance of CSF
    - Synapse
      - a) Types of synapses and their structure
      - b) Sympathetic transmission
      - c) General properties of neuro-transmitters

- Sensory physiology
  - a) Classification and general properties of receptors
  - b) Sensory modalities and stereognosis
- Reflexes
  - a) Reflex and general properties of reflexes (with examples)
- Ascending tracts
  - a) Origin, course, termination and functions
  - b) Specific reference to pain pathway and physiology of pain
- Organization of motor system
  - a) Pyramidal and extra-pyramidal
  - b) Upper and lower motor neurons and their lesions.
  - c) Brown Sequard syndrome
  - d) Syringomyelias
- Cerebellum
  - a) Functional anatomy, connections and functions
  - b) Effects of lesions and tests for cerebellar function
- Basal ganglion
  - a) Functional anatomy, connections and functions
  - b) Diseases of basal ganglion and its clinical evaluation
- Vestibular apparatus
  - a) Functional anatomy, connections and functions
  - b) Effects of lesions and their assessment
  - c) Physiology of maintenance and regulation of muscle tone, posture and equilibrium
  - d) Decerebrated rigidity and righting reflexes
- Thalamus
  - a) Functional anatomy, connections and functions
  - b) Effects of lesions
- Hypothalamus
  - a) Functional anatomy, connections and functions
  - b) Effects of lesions
- Cerebral cortex
  - a) Functional anatomy
  - b) Methods of study of cortical functions
- Limbic System
  - a) Functional anatomy, connections and functions
- Reticular formation
  - a) Physiology of reticular formation
  - b) EEG, physiology of sleep and wakefulness
- Higher functions
  - a) Learning, speech, memory, behavior and emotions
- d. Autonomic Nervous System
  - Sympathetic nervous system
  - Parasympathetic nervous system

## Yogic management of Nervous System

- i. Causes, classification and pathophysiology of
  - a. Headaches
    - Migraine
    - Tension headache
  - b. Cerebro-vascular accidents: stroke
  - c. Epilepsy; pain; Autonomic dysfunctions
  - d. Parkinson's disease
  - e. Multiple sclerosis
  - f. Alzheimer's disease & Other dementia
  - g. Motor neuron diseases
  - h. Peripheral neuropathies
  - i. Meningitis, tumors of CNS
  - j. Tumors of peripheral nerves
  - k. Encephalitis
- ii. Pharmacological management of Nervous disorders
  - Drugs acting on the CNS
    - a) General sedatives
    - b) Anticonvulsant drugs
    - c) Opioid and Non-Opioid analgesics
    - d) Analgesics, antipyretics and non steroidal anti-inflammatory drugs (NSAID)
    - e) CNS stimulants – Xanthine alkaloids
    - f) Psychopharmacology
    - g) Anti-anxiety drugs – Meprobamate, Benzodiazepines, Chlormethiazole
    - h) Anti-depressant drugs – Classification, actions, adverse reaction (monoamine oxidase inhibitors, tricyclic compounds, carbamazepine, lithium)
    - i) Psychotogenic drugs – LSD, Mescaline, Cannabis
  - Local Anesthetics – adverse reactions
  - Drug action on ANS
    - a) Skeletal muscle relaxants – Diazepam, Baclofen, Dantrolene
    - b) Anti-Parkinsonian drugs – Levodopa, Amantadine
    - c) Biogenic Amines and Polypeptides
      - Histamine and Antihistamine drugs
      - Angiotensin, Kinins, Leukotrienes, Cytokines
  - Chemotherapy
    - a) Sulfonamides, Cotrimoxazole, Nitrofurans
    - b) Penicillin, antibiotics effective against gram positive and negative organisms
    - c) Tetracyclines, chloramphenicol and antifungal agents

- d) Chemotherapy of UTI, STD, Tuberculosis, Leprosy, Malaria, Amoebiasis, Viral infections, Helminthiasis, Malignancy
- e) Antiseptics and Disinfectants
- iii. Yogic management for Nervous disorders
  - a. Special techniques related to the disease
  - b. Viewpoints of ancient texts
  - c. Role of Integrated approach of yoga therapy for each ailment
  - d. Mechanism of action

## Anatomy and Physiology of Endocrine system

- i. Anatomy of
  - a. Pituitary
  - b. Pineal
  - c. Thyroid
  - d. Parathyroid
  - e. Thymus
  - f. Spleen
  - g. Pancreas
  - h. Suprarenal
  - i. Ovaries and
  - j. Testes
- ii. Physiology
  - a. Introduction – hormones, evolutionary background and organization of endocrine control systems
  - b. Methods of study
    - Classification of hormones and mechanism of hormone action
    - Regulation of hormone secretion and feedback system
  - c. Hypothalamo-hypophyseal system – releasing hormones
  - d. Active principles
    - Chemical nature, biosynthesis, role of action
    - Control of secretion, excretion and its applied aspect
    - Clinical study of their hypo- and hyper function
    - Laboratory diagnosis of pituitary (anterior and posterior) glands, thyroid, parathyroid, adrenal cortex and medulla and islets of langerhans

## Yogic management

- i. Causes and Pathophysiology of
  - a. Pituitary, acromegaly, hypothyroidism and Grave's disease
  - b. Thyroiditis, tumors of thyroid and thyroid function tests
  - c. Hypoparathyroidism and hyperparathyroidism
  - d. Hyperplasia and adenoma of parathyroid
  - e. Adrenal gland, addison's disease, cushing's syndrome
  - f. Pheochromosytoma, neuroblastoma
- ii. Phamacologicalmangement



- a. Thyroid and antithyroidal drugs
  - b. Insulin and oral antidiabetic drugs
  - c. Adrenal cortical steroids
  - d. Gonadotropins, estrogens, progestins
  - e. Antifertility agents and ovulation including drugs.
- iii. Yogic management
- a. Viewpoints of ancient texts
  - b. Role of Integrated approach of yoga therapy
  - c. Mechanism of action

## Musculoskeletal System

1. Osteology (Including ossification)
  - a. Classification of bones
  - b. Description of various bones
    - i. Upper limb
    - ii. Lower limbs
    - iii. Thorax
    - iv. Abdomen and pelvis
    - v. Vertebral column
    - vi. Skull bones
2. Arthrology
  - a. Classification of joints
  - b. Description of various joints of:
    - i. Upper limb
    - ii. Lower limbs
    - iii. Skull and vertebral column
    - iv. Thorax
    - v. Vertebral column
3. Myology
  - a. Types of muscles
  - b. Muscles of
    - i. Upper limb,
    - ii. Lower limbs
    - iii. Thorax
    - iv. Abdomen and pelvis
    - v. Back muscles
    - vi. Head and neck
  - c. Origin, insertion, blood supply, nerve supply, applied anatomy and actions of these muscles
4. Cartilaginous tissue and other musculoskeletal structures
  - a. Classification of cartilages
  - b. Tendons and Ligaments
  - c. Meniscus
5. Exercise physiology

- a. The Muscles in exercise
    - i. Strength, power and endurance of the muscles.
    - ii. Muscle metabolic systems in exercise.
    - iii. Nutrients used during muscle activity.
    - iv. Effect of athletic training on muscles and muscle performance.
  - b. Respiration in exercise.
  - c. The cardiovascular system in exercise.
  - d. Body heat in exercise.
  - e. Body fluids and salt in exercise.
  - f. Body fitness prolongs life.
6. Musculoskeletal pathology
    - a. Osteomyelitis and osteoporosis
    - b. Rickets and osteomalacia
    - c. Osteitisfibrosa cystic and Paget's disease, fibrous dysplasia
    - d. Tumors of bone
    - e. Rheumatoid arthritis, Gout
    - f. Myasthenia gravis and progressive muscular dystrophy
  7. Pharmacology
    - a. Opioid and Non-Opioid analgesics
    - b. Analgesics, antipyretics and non steroidal anti-inflammatory drugs (NSAID)
    - c. Skeletal muscle relaxants – Diazepam, Baclofen, Dantrolene
  8. Clinical examination of musculoskeletal system
  9. Yogic management of musculoskeletal disorders
    - a. Ancient philosophical view on musculoskeletal disorders
    - b. Integrated approach of yoga therapy for musculoskeletal problems
    - c. Modern research evidence
    - d. Mechanism of action of yoga

## Digestive System

1. Anatomy
  - a. Oral cavity – Teeth, hard and soft palate, tongue, pharynx
  - b. Esophagus & Stomach,
  - c. Small intestine
  - d. Large intestine,
  - e. Anal canal & Anus
  - f. Liver & Gall bladder
  - g. Pancreas & Spleen
  - h. Peritoneum
2. Physiology
  - a. Introduction, organization and plan of digestive system
  - b. Saliva - Composition, functions, regulation of secretion
  - c. Stomach
    - i. Functions of stomach
    - ii. Composition and functions of gastric juice
    - iii. Regulation of secretion and mechanics of HCL secretion
    - iv. Gastric emptying time and its regulation
    - v. Methods of study of gastric function and its supplied aspect

- d. Pancreas
    - i. Composition and functions of pancreatic juice
    - ii. Regulation of pancreatic secretion
    - iii. Methods of study of pancreatic secretion
  - e. Liver
    - i. Function, formation, storage and emptying of bile
    - ii. Composition, function and regulation of release of bile
    - iii. Entero-hepatic circulation
    - iv. Tests for liver function
  - f. Small intestine
    - i. Succusentericus
    - ii. Composition, function and mechanism of secretions
  - g. Large intestine
    - i. Functions
  - h. Gastro-intestinal hormones
    - i. Release and functions
  - i. Gastro-intestinal movements
    - i. Mastication, deglutition and vomiting
    - ii. Movements of stomach and small intestines
    - iii. Movements of large intestine and defecation
    - iv. Regulation of movement and methods of study
  - j. Digestion and absorption of carbohydrates, fats, proteins and vitamins, minerals and water
3. Pathology and Treatment
- a. Pleomorphic adenoma of salivary gland
  - b. Barret's esophagus
  - c. Gastritis and peptic ulcer and tumors of stomach
  - d. Inflammatory bowel diseases – Crohn's disease, ulcerative colitis, typhoid ulcer, tumors of small intestine
  - e. Megacolon and tumors of colon
  - f. Malabsorption syndrome, tropical sprue and celiac tuberculosis
  - g. Liver function test and hepatic failure, viral hepatitis
  - h. Cirrhosis of liver, tumors of liver
  - i. Cholecystitis, gall stones
  - j. Acute pancreatitis, diabetes mellitus
  - k. Cystic fibrosis (mucoviscidosis)
  - l. Liver abscess and alcoholic liver
  - m. Indian childhood cirrhosis
4. Pharmacology
- a. Appetizers, Digestants, Carminatives, Appetite suppressants and agents lowering serum lipid
  - b. Emetics, drug therapy of vomiting and diarrhea
  - c. Pharmacotherapy of constipation
  - d. Pharmacotherapy of peptic ulcer
5. Clinical examination of digestive system
6. Yogic management of gastrointestinal disorders
- a. Ancient philosophical view on musculoskeletal disorders

- b. Integrated approach of yoga therapy for musculoskeletal problems
- c. Modern research evidence
- d. Mechanism of action of yoga

## Excretory System

1. Anatomy
  - i. Kidneys
  - ii. Ureters
  - iii. Urinary bladder
  - iv. Urethra
2. Physiology
  - i. General introduction, organs of excretion with special emphasis on evolution of excretory mechanisms
  - ii. Mechanism of urine formation, glomerular filtration, tubular function
  - iii. Concentration and acidification of urine
  - iv. Renal function tests
  - v. Non-excretory functions of kidney
  - vi. Physiology of micturition and its abnormalities
3. Diseases of Kidney
  - i. Renal function tests, renal failure, polycystic kidney
  - ii. Acute glomerulonephritis, crescentic glomerulonephritis, membranous glomerulonephritis, nephritic syndrome
  - iii. Chronic glomerulonephritis, acute tubular necrosis
  - iv. Pyelonephritis, kidney in hypertension
  - v. Urolithiasis, tumors of kidney and pelvis
4. Water, Electrolytes and drugs affecting Renal functions
  - i. Nutritional supplementation therapy
  - ii. Diuretic and Anti-diuretic drugs
5. Clinical examination of excretory system
6. Yogic management of excretory system disorders
  - i. Ancient philosophical view on excretory system disorders
  - ii. Integrated approach of yoga therapy for urinary problems
  - iii. Modern research evidence
  - iv. Mechanism of action of yoga